

**REMARKS**

Claims 17-33 now stand in the application, original claims 1-16 having been replaced with new claims 17-33. The specification has also been editorially amended. Reconsideration of the application and allowance of all claims are respectfully requested in view of the above amendments and the following remarks.

The amended claims address all of the 35 USC §112 objections raised by the examiner. Withdrawal of that rejection is respectfully requested.

New dependent claim 33 has been drawn based on features of the specification, ref. p. 14, lines 14 - 19.

The prior art rejections stated in paragraphs 11-29 of the Office action are respectfully traversed.

As mentioned by the examiner, Lindemann discloses a hearing aid with an in-situ testing capability. This hearing aid receives control signals from the fitter to selectively couple the hearing aid in a normal hearing aid mode or a diagnostic test mode. In response to control signals from the hearing aid fitter, a controller selectively couples either a hearing rehabilitator in the normal hearing aid mode or a switch to a digital-to-analog converter for using the hearing aid in a diagnostic test mode. Lindemann teaches no specific hardware or software.

Steege discloses a wireless remote control device for a hearing aid.

Charpentier discloses a power efficient hearing aid with a final attenuator, which includes three resistors and four switches. This last attenuation is fixed once in the fitting procedure for the hearing aid, and is not changed, unless the hearing aid is fitted anew. Each of three switches

may connect a respective resistor between the output of the amplifier and the receiver, i.e. in series with the impedance of receiver. The amount of attenuation will depend on the relative impedances of the resistor and the receiver. The receiver may also be connected directly to the output of the amplifier, bypassing all the resistors. Apart from the fact that this way of attenuation incurs losses, it is not linear with frequency and thus not well defined because the output characteristic of the receiver will be dependent on the impedance of the receiver, which may vary depending on the frequency.

Aceti teaches a hearing aid with a class-D amplifier for extended battery life.

Pikkarainen teaches a sigma-delta D/A converter, wherein the advantages of the sigma-delta converter are high accuracy, good reliability, good stability and good linearity. Pikkarainen does not relate to the field of hearing aids.

Claim 1 (now claim 17) as now amended distinguishes over Lindemann notably through the recitation of a control device, the control device being adapted for communication with a control signal receiver means of the hearing aid, and through the recitation of a voltage dividing network adapted to attenuate the test signal as fed to the output transducer, the switch means acting in a second position to bypass the voltage dividing network in order to feed the test signal directly to the output transducer.

The control device provides a means for controlling various functions of the hearing, and it may be fitted with various other capabilities, e.g. power supply for the hearing aid.

The selectively applied voltage dividing network provides a dependable and linear attenuation of the output signal thereby to provide a low-noise capability, useful for in-situ

testing. A hearing aid according to the invention effectively provides two overlapping dynamic ranges of output, i.e. one range for normal use, and a special low-noise range useful for in-situ testing of persons with a minor hearing deficiency in at least some frequency ranges.

Thus, in a hearing aid with a standard hearing aid amplifier with a comparatively low dynamic range, optimized for just compensating the hearing deficiency, the invention makes it possible to effectively expand the dynamic range into a range suitable for testing.

As noted by the examiner in a comment directed to claim 21, Lindemann uses three resistors. However, Lindemann places the resistors in parallel, each of them switched and serially to the receiver. Claim 21, which has now been amended linguistically, teaches that the voltage dividing network comprises at least two fixed value resistors. Claim 21 distinguishes Lindemann in referring to a voltage dividing network.

Independent claim 28 distinguishes Lindemann notably through the recitation of the hearing aid being adapted for selective operation in at least one of a first mode and a second mode, the amplifier being adapted to generate, in the first mode, an amplifier output signal within a first dynamic range, extending between an amplifier noise level and a maximum output level, the attenuation means being adapted to attenuate, in the second mode, the amplifier output signal so as to extend within a second dynamic range, which second dynamic range is shifted to lower levels relative to the first dynamic range.

Lindemann does not teach a hearing aid adapted for selective operation in a first mode and a second mode. Neither does Lindemann teach providing a second dynamic range which is shifted to lower levels relative to the first dynamic range.

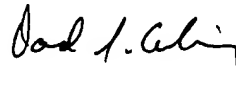
Amendment  
USSN 09/744,300

For the above reasons, it is submitted that the invention defined in the present claims is neither anticipated by nor obvious from the teachings of the prior art.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

---

David J. Cushing  
Registration No. 28,703

Date: August 11, 2004